UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,119,903 B1
APPLICATION NO. : 10/692704
DATED : October 10, 2006
INVENTOR(S) : Brian B. Jones

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE SPECIFICATION:

Column 6, Line 55: remove "(i.e.," after "integrand"

Column 10, line 20, replace: "$\rho_{spec}^2 = \rho_0^2 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0^2 \tan^2 \theta_{spec}$."
with: --$\rho_{spec}^2 = \rho_0^2 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0^2 \tan^2 \theta_{spec}$.--

Column 10, line 22, replace: "$0 \leq r \leqq R$" with --$0 < r \leq R$--

Column 10, line 23, replace: "$0 < \phi \leqq 2\pi$." with --$0 < \phi \leq 2\pi$.--

Column 10, line 49, replace: "$\rho^2 = \rho_{spec}^2 + r^2 + \rho_{spec} r \cos\psi_{spec} \cos\phi + \rho_{spec} \sin\psi_{spec} r \sin\phi$."

with: --$\rho^2 = \rho_{spec}^2 + r^2 + \rho_{spec} r \cos\psi_{spec} \cos\phi + \rho_{spec} \sin\psi_{spec} r \sin\phi$.--

Column 10, line 52, replace: "$\rho \leqq R$" with --$\rho \leq R$--

Column 10, line 55, replace: "$\dfrac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec} r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$."

with: --$\dfrac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec} r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$.--

Column 10, line 59, delete equation: "$\geqq \cos\psi_{spec}\cos\phi + \sin\psi_{spec} \sin\phi$."

Column 11, line 5, replace: "$\dfrac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec} r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$."

with: --$\dfrac{R^2 - \rho_{spec}^2 - r^2}{\rho_{spec} r} \geq \cos\psi_{spec} \cos\phi + \sin\psi_{spec} \sin\phi$.--

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Column 11, line 10, delete $\cos\psi_{spec}\cos\phi + \sin\psi_{spec}$ $\beta'^2 = \frac{z_0^2}{z_0^2+r^2} - \frac{2z_0\sin\theta_0}{\sqrt{z_0^2+r^2}} + \sin^2\theta_0 \sin\phi$." equation: "≅

Column 12, line 7, re- $\beta'^2 = \frac{z_0^2}{z_0^2+r^2} - \frac{2z_0\sin\theta_0}{\sqrt{z_0^2+r^2}} + \sin^2\theta_0$ place: " "

with: -- --

$$\frac{d\beta'}{dr} = \left(\frac{z_0^2}{z_0^2+r^2} - \frac{2z_0\sin\theta_0}{\sqrt{r^2+z_0^2}} + \sin^2\theta_0\right)^{-\frac{1}{2}}\left(\frac{z_0^2 r}{(z_0^2+r^2)} - \frac{z_0 r\sin\theta_0}{(z_0^2+r^2)^{(3/2)}}\right).$$

Column 12, line 20, replace:

" $\frac{d\beta'}{dr} = \left(\frac{z_0^2}{z_0^2+r^2} - \frac{2z_0\sin\theta_0}{\sqrt{r^2+z_0^2}} + \sin^2\theta_0\right)^{-\frac{1}{2}}\left(\frac{z_0^2 r}{(z_0^2+r^2)} - \frac{z_0 r\sin\theta_0}{(z_0^2+r^2)^{(3/2)}}\right)$."

with: --

$$\frac{dp}{d\Omega} = \frac{1}{I_s l(r) r}\left(\frac{d\beta'}{dr}\right)\frac{dBRDF}{d\beta'}. \quad --$$

$$\frac{dp}{d\Omega} = \frac{1}{I_s \ell(r) r}\left(\frac{d\beta'}{dr}\right)\frac{dBRDF}{d\beta'}.$$

Column 12, line 37, replace: " "

$$\int_{D'} \frac{dp(|\beta-\beta_0|)}{d\Omega}\sqrt{k_1}\left|\frac{\partial(\theta,\phi)}{\partial(k_1 k_2)}\right| dk_1 dk_k.$$

with: -- --

$$\int_{D'} \frac{dp(|\beta-\beta_0|)}{d\Omega}\sqrt{k_1}\left|\frac{\partial(\theta,\phi)}{\partial(k_1 k_2)}\right| dk_1 dk_2.$$

Column 13, line 63, replace: "BRDF = "

$\frac{\partial\phi}{\partial k_1}$, $\frac{\partial\phi}{\partial k_2}$

with: --BRDF = --

Column 15, line 3, replace: " " with: -- ,--

Column 15, lines 32-33,
replace: "$\cos^{-1}(\sin\theta_1\cos\phi_1\sin\theta_2\cos\phi_2 + \sin\theta_1\sin\phi_1\sin\theta_2\sin\phi_2 + \cos\theta_1\cos\theta_2) \leqq \alpha$"

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with: --$\cos^{-1}(\sin\theta_1 \cos\phi_1 \sin\theta_2 \cos\phi_2 + \sin\theta_1 \sin\phi_1 \sin\theta_2 \sin\phi_2 + \cos\theta_1 \cos\theta_2) \leq \alpha$--

Column 16, line 37, replace: $\frac{dp}{d\Omega} = \frac{1}{I_s l(r) r}\left(\frac{d\beta'}{dr}\right)\frac{dBRDF}{d\beta'}$. "l(r)" with --$\ell$(r)--

Column 16, line 45, replace: "$\geqq \cos\psi_{spec} \cos\phi +$ $\sin\psi_{spec} \sin\phi$, and" with: -- $\frac{dp}{d\Omega} = \frac{1}{I_s \ell(r) r}\left(\frac{d\beta'}{dr}\right)\frac{dBRDF}{d\beta'}$. $\geq \cos\psi_{spec} \cos\phi +$ $\sin\psi_{spec} \sin\phi$, and--

Column 16, line 50, replace: " "

^{2} ^{2} ^{2}

with: -- --

Column 17, line 19, delete: "; and"

Column 17, line 20, replace: "$\rho_{spec}^2 = \rho_0^2 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0^2 \tan^2 \theta_{spec}$"
with: --$\rho_{spec} = \rho_0 - 2\rho_0 z_0 \cos\psi_0 \tan\theta_{spec} + z_0 \tan^2 \theta_{spec}$--

Column 17, line 22, add: --; and-- before "(c)".

Column 17, line 30,
replace: "$\cos^{-1}(\sin\theta_1 \cos\phi_1 + \sin\theta_1 \sin\theta_2 \cos\phi_2 + \sin\theta_1 \sin\phi_1 \sin\theta_2 \sin\phi_2 + \cos\theta_1 \cos\theta_2) \leqq \alpha$"
$\frac{1}{P_i}\frac{1}{\Omega_i}\int_{\Omega i}\int_{Are\, s}\int_{\Omega d}\frac{d^2 P_i}{d\Omega_i dA}\frac{dp_d(\Omega_i, \Omega_d, A)}{d\Omega_d} d\Omega_i dA d\Omega_d$,
$\frac{1}{P_i}\frac{1}{\Omega_i}\int_{\Omega i}\int_{Area}\int_{\Omega d}\frac{d^2 P_i}{d\Omega_i dA}\frac{dp_d(\Omega_i, \Omega_d, A)}{d\Omega_d} d\Omega_i dA d\Omega_d$,
with: --$\cos^{-1}(\sin\theta_1 \cos\phi_1 \sin\theta_2 \cos\phi_2 + \sin\theta_1 \sin\phi_1 \sin\theta_2 \sin\phi_2 + \cos\theta_1 \cos\theta_2) \leq \alpha$--

IN THE CLAIMS:

Column 21, line 15, replace:

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"BRDF = "

$$\int_D \cdot \frac{dp\left(|\beta - \beta_0|\right)}{d\Omega} \sqrt{k_1} \left| \frac{\partial(\theta, \phi)}{\partial(k_1 k_2)} \right| dk_1 dk_2 ,$$

with: --BRDF = --

$$\int_D \cdot \frac{dp\left(|\beta - \beta_0|\right)}{d\Omega} \sqrt{k_1} \left| \frac{\partial(\theta, \phi)}{\partial(k_1, k_2)} \right| dk_1 dk_2 ,$$

Column 21, line 29, replace "P_i is incident power of the electromagnetic radiation." with -- P_i is the incident power of the electromagnetic radiation.--

Column 21, line 58, remove: "for" after "$|\beta-\beta_0| = \theta_i + \theta_d$".

Column 21, line 59, add: --for-- before "being".

Column 21, line 65, replace: "BRDF = "

with: --BRDF = --

Signed and Sealed this

Twenty-fifth Day of September, 2007

JON W. DUDAS
Director of the United States Patent and Trademark Office